The Role of Organisational Culture on Knowledge Sharing by Using Knowledge Management Systems in MNCs

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Abstract

Knowledge is important in organisations and knowledge cannot be effective unless they are shared. Therefore, Knowledge Management Systems (KMSs) are used in organisations to share, utilise, and integrate knowledge. Organisational culture (OC) is an important factor and needs to be considered in Knowledge Sharing (KS) because, although it can foster sharing and collaboration, it must be handled sensitively with respect to the natural resistance of people and the existing culture toward change inside organisations. This paper seeks to explore how organisational culture can facilitate knowledge sharing by using KMSs in MNCs. Based on 42 semi-structured interviews, MNCs are recommended to consider OC as a significant factor that affects KMSs usage and KS. They are also advised to create a favourable environment or OC to enable employees in all branches and at all levels to utilise their knowledge resources by using KMSs in KS which will help managers to identify new ways supporting and facilitating knowledge sharing via using KMSs in MNCs.

Key Words
Organisational Culture, Knowledge Based View, Knowledge Management Systems, Knowledge Sharing, Multinational Corporations.

Introduction:

In the current global market, knowledge is considered a source of competitive advantage and has become a crucial factor for Multinational Corporations (MNCs). Effective Knowledge Sharing (KS) between different units overseas has been a challenge for MNCs, as there are so many unprecedented challenges facing managers outside their organisations along with environmental "forces for change", such as globalisation, emerging technologies, emerging best business practices, government regulations, politics, competitive global financial markets, limited availability of knowledge workers, and higher worker turnover rates (Cuffe, 2007). Furthermore, MNCs are searching for appropriate ways to manage and use their knowledge effectively and efficiently (Ordóñez de Pablos, 2006), and in this highly competitive global environment, they are now recognising an urgent need to institutionalise KS as a means of obtaining the best value from all available knowledge assets (Goh, 2007). MNCs have different employees with different cultures and languages, and this diversity can pose challenges for KS (Ford and Chan, 2003; Minbaeva, 2007; Wang and Noe, 2010). One of the top priorities of MNCs is therefore to manage KS effectively to handle these differences appropriately (Monteiro *et al.,* 2008). Furthermore, Montazemi *et al.* (2012) emphasise that the effective sharing of organisational knowledge is particularly relevant for MNCs, as organisations' knowledge is considered a significant source of competitive advantage in their global strategy. Therefore, in order to succeed in the global information society, MNCs need to identify, evaluate, create, evolve and develop their knowledge assets since knowledge is one of their meaningful economic resources (Metaxiotis *et al.*, 2003). Therefore, MNCs are always looking for support from their Information Technology (IT) departments to utilise, facilitate and use their existing knowledge effectively and efficiently (Montazemi *et al.*, 2012). Kostova *et al.* (2008, p.997) point out that "MNCs have complex internal environments, with spatial, cultural, and organisational distance, language barriers, inter-unit power struggles and possible inconsistencies and conflict among the interests, values, practices, and routines used in the various parts of the organisation". Therefore, KS in the complex environment between MNCs units requires particular coordination mechanisms and tools to facilitate it (Ghoshal and Bartlett, 1995; Gupta and Govindarajan, 2000; and Sia *et al.,* 2010). Knowledge Management Systems (KMSs) succeed in playing a vital and dynamic role in enabling employees in MNCs to easily find expertise residing in the organisation and to support interactions between employees (Dennis and Vessey, 2005). Therefore, MNCs recognise the need to integrate all types of knowledge in formal

KMSs and using modern IT tools to systematise, enhance, and expedite intra- and inter-firm Knowledge Management (KM) (Alavi and Leidner, 1999).

Accordingly, the performance of MNCs depends mainly on their ability to coordinate geographically dispersed knowledge resources. Knowledge represents a strategic importance for MNCs, which should be shared effectively and efficiently throughout subsidiaries to generate improved products and better services (Montazemi *et al.*, 2012). However, MNCs face a big challenge in KS through using KMSs. One of the most important reasons for the failure of KMSs is failure to consider how the organisational and interpersonal contexts influence KS (Voelpel *et al.*, 2005; Wang and Noe, 2010). In brief, KS is a significant issue in MNCs and knowledge cannot be effective unless it is shared. In MNCs, knowledge can be generated at various locations and distributed to diverse parts of an interconnected network of organisational units (Holm *et al.*, 2001). KS between MNCs units is a real priority and should therefore be the focus of far more attention than it has received to date (Abdelrahman *et al.,* 2016; Monteiro *et al.,* 2008). Accordingly, the overall purpose of this study is to explore the role of organisational culture on KMSs usage and KS in MNCs.
In this paper we summarise our exploratory research to address this issue. We begin this paper by discussing Organisational Culture and its implication on Knowledge Management Systems and Knowledge Sharing in MNCs. Then, we outline the methodology and data collection of the study, followed by thematic analysis, findings and the conceptual framework. The final sections are the discussion and conclusions.

Literature Review

Technology plays a vital role in business, as it helps employees to access the knowledge they need when they need it, and provides the tools with which decision makers and users can leverage their knowledge in the context of their work (Chong and Chong, 2009; Bals *et al.* 2007). Over the past three decades, many organisations have developed information technology-based systems (IT-based systems) designed specifically to facilitate the sharing, integration and utilisation of knowledge, referred to as knowledge management systems (KMSs). These systems are part of the agenda in many of today's leading MNCs (Abdelrahman *et al.,* 2016; Nielsen and Michailova, 2007).

Organisational Culture

KS is important in organisations and KM cannot be effective unless it is shared. As a result, there are plenty of tools available for KS, but their use requires a cultural change which some employees might be hesitant to make. Therefore, culture is an important factor and needs to be considered in KS because, although it can foster sharing and collaboration, it must be handled sensitively with respect to the natural resistance of people and the existing culture toward change inside organisations (Chong and Chong, 2009). Since the 1980s, Organisational Culture (OC) has become a business phenomenon which helps organisations to adapt to the external environment and support Organisational Effectiveness (OE) (Daft, 2009; Denison 1990; Zheng *et al.*, 2010). Schein (2012) states that OC refers to shared basic assumptions, norms and values in the organisation. Moreover, it constitutes an environment where organisational activities can take place (Zheng *et al.,* 2010). Schein (1985, P.12) defines OC as "A pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way you perceive, think, and feel in relation to those problems". OC is a substantial source of competitive advantage and several empirical researchers have shown that it is a significant factor in OE (Wilkins and Ouchi, 1983; Barney, 1991; Gordon and DiTomaso, 1992; Zheng *et al.,* 2010). In particular, Denison and his colleagues identified and validated four dimensions of OC that are conducive to OE: adaptability, consistency, involvement and mission (Denison, 1990; Denison and Mishra, 1995; Fey and Denison, 2003). The Denison model measures four critical traits of culture and each of these traits is further broken down into three indices. *Adaptability* refers to "the degree to which an organisation has the ability to alter behaviour, structures, and systems in order to survive in the wake of environmental changes". The indices of the adaptability trait are creating change; customer focus; and organisational learning. *Consistency* refers to "the extent to which beliefs, values, and expectations are held consistently by members", and its indices are: coordination and integration; core values; and agreement. *Involvement* refers to "the level of participation by an organisation's members in decision-making"; its indices are: empowerment; teamwork; and capability development. *Mission* refers to "the existence of a shared definition of the organisation's purpose", with indices strategic direction and intent; goals and objectives; and vision. In this research, this model of organisational culture was used to measure OC.

Implications of Organisational Culture on KS & KMSs

KM in organisations enhances communication and sharing between organisational members, and enriches the interpretation and the coordinating actions between them. Accordingly, a cooperative OC

must be created in such organisations to allow effective KS and communication between employees (Courtney, 2001). OC that emphasises competition between employees may pose a barrier to KS while cooperation between teams helps in creating trust, which is an essential condition for KS (Wang, 2004; Willem and Scarbrough, 2006; Schepers and Van den Berg, 2007; Wang and Noe, 2010). OC may help enhance KS which may in turn reinforce the culture (Wang and Noe, 2010).

Nonaka *et al.* (2000) and Zheng *et al.* (2010) point out that knowledge is an outcome of OC because knowledge is created, made sense of, shared and utilised in accordance with a set of cultural values and norms embedded in structural relationships and reflected in strategic priorities. For example, KS practices are affected by cultural expectations, such as what knowledge should be shared within the organisation and what should be hoarded by individuals; by structural relationships such as how quickly the knowledge flows through formal reporting relationships; and by strategic priorities such as what knowledge is to be paid attention to and what is to be ignored (Zheng *et al.,* 2010). Moreover, Lin and Lee (2006) found that the advantages of KS for business are as mediators between OC and the organisation's intention to encourage KS. Taylor and Wright (2004) say that there is a positive relationship between the climate of an organisation that encourages new ideas and focuses on learning from failure, and effective KS. Furthermore, many researchers acknowledge the importance of OC for the long-term success of KM and KS (Connelly and Kelloway, 2003; Bock *et al.*, 2005; Collins and Smith, 2006; Wang and Noe, 2010). Research has shown that organisations with cultures emphasising innovation are more likely to use KMSs and facilitate KS through subjective norms that encourage sharing (Ruppel and Harrington, 2001; McKinnon *et al.,* 2003; Bock *et al.,* 2005; Wang and Noe, 2010). Alavi *et al.* (2006) emphasise the importance and the influence of culture on the use of KMSs and the outcomes of such use; they examine the culture values and KM approaches by using a case study method in a large global information services company. They stress that "any differences in cultural values within firms will lead to divergent organisational and individual outcomes from KM system use". KMSs do not solve problems, but through the structure of the OC, KMSs can be directly integrated into a firm's business processes to provide help in solving problems by applying knowledge and sharing best practices (Turban *et al.,* 2010). In turn, organisational knowledge reflects the cultural characteristics of the organisation and this knowledge is shared and utilised to enhance OE (Fey and Denison, 2003; Nonaka *et al.,* 2000; Zheng *et al.,* 2010). However, OC alone may be insufficient to facilitate KS, as it is important to design KM initiatives that link KS to organisational goals and values (McDermott and O'Dell, 2001; Wang and Noe, 2010).

Implications of Organisational Culture on MNCs

Culture is one of the factors that can have an impact on KS in MNCs, like the cultural distance between the headquarters' and subsidiaries' organisational cultures. In this context, Hofstede (1980) clearly shows the influence and importance of this factor on international business. Most MNCs have different sets of practices and policies that show idiosyncratic differences in OC; these cultures are based on the beliefs, duties and assumptions that the executives have on their way of managing and dealing with their employees (Wang and Noe, 2010). Moreover, competitive advantage in MNCs depends not only on existing knowledge but also on OC, systems, policies and practices to accumulate, integrate and share organisational knowledge within the organisational boundaries (Michailova and Minbaeva, 2012; Minbaeva *et al.,* 2003). Wang and Noe (2010) suggest that MNCs need to pay close attention to cultural issues in developing organisational practices and global systems that will facilitate KS as there is no single universal set of practices that can be used to facilitate KS in global and MNCs.

Theoretical Argumentation

In the current economy "where the only certainty is uncertainty" the one sure source of lasting competitive advantage is knowledge (Nonaka, 1995). The Knowledge Based View (KBV) indicating that the most important source of an organisation's sustainable competitive advantage is its ability to create and utilise knowledge (Grant, 1996; Kogut and Zander, 1992; Nonaka, 1995; Prahalad and Hamel, 1990). The KBV points out the importance of understanding the organisational processes to access and utilise knowledge owned by its employees. Grant (1996), stresses that effective coordination among organisational members is the challenge of the KBV, as their knowledge is specialised and needs to be integrated. Grant and Baden-Fuller (1995) define the KBV as "an emerging theory of the existence, organisation and competitive advantage of the firm, which is based upon the role of firms in creating, storing and applying knowledge". The KBV treats KS through the organisational capacity to integrate knowledge within existing structures of the organisation and share the integrated knowledge between individuals (Michailova and Minbaeva, 2012). KS does not occur automatically; it may require substantial organisational efforts aimed at encouraging close relationships between organisations' members (Michailova and Minbaeva, 2012).

The KBV considers the organisation as a set of knowledge-assets and the role of the organisation is creating, organising and deploying these assets to create value from them (Grant, 1996).

Also, information technology (IT) is important for organisations in making the best use of these resources. Alavi and Leidner (2001) point out that IT can play a significant role in the KBV of the firm when information systems are used to synthesise and enhance inter- and intra-KM. Since the initiation of information systems (IS) there has been on-going research to explore and examine the factors that persuade individuals to accept and use technological systems. This issue is important for MNCs because they attempt to use KMSs to connect all employees and branches together all over the world. Understanding the influence of these factors will enable managers, system designers and developers to understand and consider users' perceptions towards a given technological system. There are various theories regarding user acceptance, like Theory of Planned Behaviour, (TPB) Theory of Reasoned Action (TRA) and Technology Acceptance Model (TAM), but TAM is the most-used theory in this area and has a clearer focus on the use of technological systems in IS research. TAM was developed by Davis (1989, 1993). TAM explains individuals' behaviour based on perceived usefulness (PRU) and perceived ease of use (PRE) towards a particular technological system; this will determine the actual use of the technology. Although several studies have applied the TAM and proved the reliability and validity of its core constructs PRU and PRE, there is considerable argument among researchers as to whether these constructs are sufficient to explain users' acceptance and usage of new technology (Segars and Grover 1993; Venkatesh and Davis, 2000; Moon and Kim, 2001; Abdelrahman *et al.,* 2016). Other factors, such as organisational culture, system design features and training might affect the acceptance and usage of new systems (such as KMSs in KS, which is the focus of this study); this is likely to vary with the technology, usage, context, organisation and target users (Wang and Noe, 2010). Thus, organisational culture and KMSs can be perceived as the organisation's plan of deploying and sharing knowledge assets. Thus, to better understand knowledge as a competitive resource and link it with KS and DMP, this study aims to extend the KBV in the context of KS.

Research Method and Data Collection

This research can be considered as a qualitative research, where data collection and qualitative data analysis were used in this study. The qualitative analysis presented here is used as exploratory research. It supports the exploration and interpretation of the study. This study adopted semi-structured interviews as a valuable data collection method which serves the purpose of this paper, as the authors adopted an interpretivist epistemology to understand the meanings that participants ascribe to various phenomena. In total, 42 semi-structured interviews were conducted. All interviews were conducted in Arabic or English. Interviews questions were translated into Arabic and back-translated into English to make sure the interview questions are the same meaning as English version. The researcher checked and reviewed these translations with a researcher, who is bilingual and has studied, worked and lived in the UK for several years, asking her to provide constructive feedback if any modifications or clarifications were needed. This helped in reducing bias and increased the reliability and validity of the research. All the interviews followed the recommendations suggested by Myers & Newman (2007). This stage resulted in 42 participants from different managerial levels in 32 different MNCs (8 from top managerial level, 14 from middle managerial level and 20 from a supervisory level). Of these 32 MNCs, 18 are operating in the Middle-East and 14 in the European Union. Data were collected from 12 countries, 7 from the Middle-East and 5 from Europe. 22 individual participants were from the Middle-East and 20 from the European Union.

The interview protocol included 12 questions and, as suggested by Silverman (2011), questions were reviewed by three academics from three different universities with backgrounds in knowledge management, knowledge sharing and knowledge management systems. Questions were pilot tested with two executives from two MNCs. Suggestions were incorporated into a second version which was piloted by another two executives from another two MNCs. Finally, questions were again modified as recommended, to simplify the wording and to make it easy for participants to answer the questions without any misunderstanding or confusion.

Analysis and Discussions:

Technology Acceptance

Technology acceptance affects the participant's decisions regarding using KMSs. In this study, technology acceptance depends on employees' perceptions regarding the usefulness and the ease of use of KMSs in supporting their job performance without extra effort. Interviewees stressed that employees in MNCs want KMSs to be easy to use, like the social networking tools that they use in their daily life (e.g. Twitter, Facebook, YouTube, Wikipedia, some applications on smart phones, Google, etc). They also want advanced and smart searching tools to be available in KMSs to enable them to search and find knowledge quickly and easily by codes, abbreviations, product, country, branch, region, keywords, etc. This finding is in line with some studies which show that the links between

employees within social networks can facilitate KS and enhance the quality of knowledge shared (Reagans and McEvily, 2003; Cross and Cummings, 2004; Hansen *et al.*, 2005; Coakes *et al.,* 2008; Wang and Noe, 2010, Abdelrahman *et al.,* 2011). Coakes *et al.* (2008) pointed out that "social networks hold those colleagues who are most trusted in central positions within the knowledge sharing activities". Similarly, Wang and Noe (2010) point out that KS may be embedded in broader organisational social networks such as communities of practice. Davis (1989) and Venkatesh *et al.* (2003) claimed that employees' expectations and attitudes are heavily grounded in the technology acceptance model, which describes how individual behaviours are influenced by beliefs and attitudes.

KMSs Usage

KMSs usage was highlighted in this study as an important theme that affects KS in MNCs; as most of the interviewees have more than five years' experience in using KMSs, use them on a daily basis and consider them as a crucial part of their daily work. Participants also described the wide variety of KMS tools they use in KS; tool selection depends on what they want to share or what they want to decide. Minbaeva (2007) emphasised the importance of involving MNC units in using KMSs with other branches, and stated that "the higher the degree of involvement of the focal subsidiary in network relations with other MNCs units, the higher the degree of KS". On the other hand, not all participants prefer to use KMSs for KS. For example, some of the executives over 50 years old in the Middle East prefer to use traditional ways of KS (i.e. telephone, fax, face-to-face, etc.); if they are required to use KMSs in their work, they just ask the people who work for them. Szulanski (2000) highlighted this point and mentioned that in spite of the increasing use of technology to facilitate KS within organisations, face-to-face communication and interaction is still an indispensable mechanism for KS, especially when more tacit knowledge is involved. Similarly, Wang and Noe (2010) pointed out that employees' personal characteristics and motivations may influence the extent to which they share knowledge using KMSs; for example, new employees might use KMSs because they are motivated to impress their supervisors.

Communication Tools

Participants want KMSs to have a variety of tools that can create and share usable knowledge with an interactive, consolidated and user-centred design to allow all users to find, share, interact and collaborate with each other in a simple way. They want to have KMS applications on their mobiles that can enable them to share knowledge and documents with their colleagues easily at anytime from anywhere. Moreover, some participants have internal media broadcasting like TV and radio inside their organisations, which updates them with the latest news regarding their work

Participants from different MNCs stated that they have shared drives in their organisations which are reachable by all employees, although with different levels of accessibility, according to position, location and authority. They also want KMSs to be unified at all branches and to have one system that can be operational everywhere and for everyone. They emphasise that knowledge must be centralised, through having a committee or team to check and review any knowledge uploaded before sharing it to avoid any bad decisions or mistakes that might occur because of inaccurate knowledge uploaded on the system

Knowledge Sharing Practice

KS obviously cannot occur unless there is a willingness to share between senders and receivers. Some participants highlighted that they do not trust the knowledge that they have, so they are less willing to share it. Similarly, some respondents do not trust the knowledge shared through KMSs when they do not know the source; equally, they prefer to share knowledge with someone they know. Thus, most participants are willing to share knowledge with someone they know and trust rather than someone they do not know. These findings are consistent with a body of research that demonstrates the relationships between these factors and KS. For example, Wu *et al.* (2007) pointed out that KS involves providing knowledge to another person or a team or community of practice with expectations of reciprocity. Ghoshal and Bartlett (1994) stated that unfriendly relationships between source and recipient might be a barrier to KS in organisations. Connelly and Kelloway (2003) and Lin (2007) highlighted that the willingness of experts and employees to help others is positively associated with their willingness to share knowledge. Relationships between employees also affect knowledge utilisation and KS in MNCs. Inkpen and Dinur (1998) highlighted that organisations with open and informal power relationships between members will be more effective in KS, through better communication. On the other hand, organisations with formal and mechanistic structures may lose or misunderstand the knowledge shared between different managerial levels. Therefore, we can see that the success of KS among MNC units is not only a function of the characteristics of that knowledge but that it is also essential to take into consideration the characteristics of both sender and receiver in the KS process, as well as the context in which KS takes place. Moreover, interpersonal trust between employees can facilitate KS, open communication, understanding of work-related problems and

encourage organisational members to gather new knowledge that supports their decisions in solving problems. David *et al.* (2000) and Politis (2003) highlighted that the level of trust that exists between the organisation, its sub-units and its employees greatly influences the amount of knowledge shared between employees and entered into the firm's databases, best practice archives and other records. On the other hand, some participants consider knowledge as power, which will make them appear knowledgeable and experts in their organisations; this power will lead to promotion and powerful positions in the organisation. Consequently, they are willing to share knowledge only if they will be recognised as knowledgeable people in their organisations. Wang and Noe (2010) stated that employees have different concerns regarding losing or gaining power through KMSs.

Organisational Culture

Organisational culture includes values, visions, missions, incentives, consistency, and involvement. Participants pointed out that OC affects the way individuals and groups interact to share knowledge with managers, employees, customers and stakeholders to achieve the organisation's objectives and mission. Participants highlighted the importance of training and organisational learning in KS, as they believe that much knowledge can be shared during the training time, because the purpose of attending any training is to learn something new. The environment and the atmosphere of the training encourage employees and enable them to work as a team, share knowledge, collaborate with each other, and learn new issues. Most of the participants in this study consider OC as one of the key factors affecting organisational effectiveness and success through management support, consistency and involvement, and stressed that it is the dominant culture in a company regardless of employees' national cultures. They also said that their organisations encourage them to share knowledge through job rotation. For example, one respondent stated that in his organisation, no employee is allowed to spend more than two years in any one place. Some MNCs rotate their employees to spread the benefits of KS and their experience. Participants also drew attention to Human Resources Management (HRM) inside their organisations, as they consider this to be the most important department in any MNC; HRM can consider KS within the OC in recruitment, team orientation, training, promotion, motivation, and career development.

David *et al.* (2000) stated that culture can shape assumptions about which knowledge is important, given that subcultures often lead their members to define important knowledge differently from other groups in the organisation. They also said that cultures with norms and practices that discourage open and honest exchanges between levels in the hierarchy create a context for communication that undermines effective KS. Other research also shows that minority and diverse employees affect KS; for example, Wang and Noe (2010) believe that employees who consider themselves as a minority in an organisation are less likely to be involved in KS with other employees. On the other hand, Sawng *et al.* (2006) pointed out that large organisations with a diversity of employees based on gender, education or nationalities are more likely to engage in KS. These findings are consistent with the research that has found a positive contribution of OC in supporting KS. For example, Grover and Davenport (2001) and Zheng *et al.* (2010) suggested that in order to have long-term and complete success in using knowledge for business advantage, some changes need to take place, mainly in core aspects of the business such as culture. Moreover, David *et al.* (2000) emphasised that the benefits of a new technology infrastructure will be limited if practices and long-standing organisational values are not supportive of KS across units. Management support is critical for the success of KS. For example, the support of top management, supervisors and co-workers affects the quality of KS through influencing employees' commitment to knowledge management, and increasing employees' KS and their perception of the usefulness of KS (Cabrera *et al.,* 2006; Kulkarni *et al.,* 2006; Lee *et al.*, 2006). Similarly, Wang and Noe (2010) recommended managers to provide the support necessary for encouraging KS among employees.

Findings and Conclusion

Extracting compelling conclusions from the semi-structured interviews can be considered as the hardest and least codified part of the process (Eisenhardt, 1989; Yin, 2008). After the data collection, thematic analysis was used to analyse the data. As Urquhart (2013) points out, a research process that focuses on what the data suggest rather than which theory it fits leads to increased integrity because it does not force any preconceived notions. The main outcome of our analysis was a conceptual framework that explains phenomena, generates insights and extends existing knowledge, within the limits of the critical bounding assumptions of this study. See Figure (1)

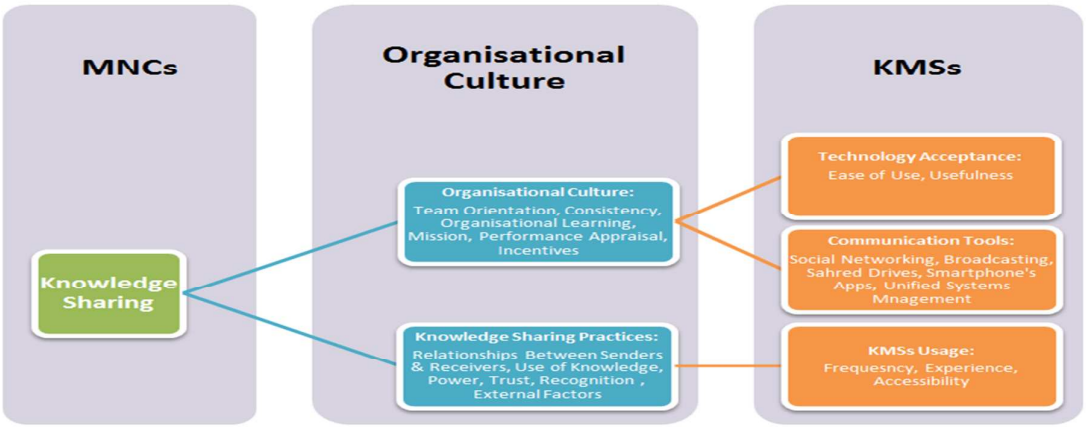

Figure 1. Organisational Culture Role in Knowledge Sharing by Using KMSs in MNCs

Cultural differences in MNCs cannot be ignored. Cultural distance between employees, organisational culture and IT culture must all be considered. Employees working in MNCs inevitably have different cultures, some of which prefer not to share knowledge which they see as a source of power and advantage over their colleagues; some employees will only share knowledge with people of their own nationality and in their own language. Others experience difficulty in contacting other employees in languages other than their own. Management support is therefore important to encourage employees to share their knowledge with employees in other departments and branches overseas. Organisation culture can facilitate KS inside an organisation by having a shared mission, consistency, incentives and rules to be followed to overcome any challenges. Incentives play a major role in encouraging employees to share knowledge, but in this study the incentives that were highlighted by respondents were not financial; they want to be recognised as knowledgeable persons inside their organisation, promoted, and spread their knowledge under their own names. Recent developments in the IT environment have introduced new requirements and changed the way of doing work, which is reflected in an organisation's results. Thus, OC will support KS by using KMSs which can support decision makers in searching, identifying problems and making decisions quickly, increasing the extent of analysis, offering more alternatives and supplying different sources of knowledge.

The importance of OC lies in its ability to have a direct effect on employees' KS behaviour as well as an indirect effect through influencing managers' attitudes (Wang and Noe, 2010). Therefore, organisations can support KS through creating opportunities for employees to interact, and encouraging communications between departments (Liebowitz and Megbolugbe, 2003; Yang and Chen, 2007). Moreover, OC is a source of competitive advantage, and several empirical researchers have shown that it is a significant factor in OE (Ouchi, 1983; Barney, 1991; Gordon and DiTomaso, 1992; Wilkins and Zheng *et al.,* 2010). Likewise, Davenport and Prusak (2000) stress that KM practices need to fit with OC in order to create a competitive advantage. Zheng *et al.* (2010) point out that KM initiatives play a potentially mediating role in linking OC with OE, as successful KM is believed to enhance and improve organisations' competitive advantage, innovation and employee relations, and to lower costs. Denison and Mishra (1995); Denison, (1996); Fey and Denison (2003); Gold *et al.,* (2001), agree that OC encompasses the social and technical systems of organisations and also affects organisational effectiveness.

The results of this study make a number of significant theoretical contributions. This research applied TAM models in a new context of exploring OC role in KS by using KMSs in MNCs. OC as an important factor can be added to TAM model which can explain the impact of different factors on KMS usage to support KS in MNCs. Thereby, the results of this study extend TAM by understanding users' perceptions regarding the usefulness and ease of use of using KMSs in KS. The findings also extend the KBV by showing how KMSs can support KS, and by taking OC as a vital factor which affects KS and KMS usage which contribute in the best use of knowledge available in an organisation and create the best value. This study also extends KBV in the context of OC through showing the impact of OC and KMS usage in deploying and sharing knowledge assets in MNCs, resulting in a better understanding of knowledge as a competitive resource in a global context. Accordingly, MNCs are recommended to consider OC as a significant factor that affects KMSs usage and KS. They are also advised to create a favourable environment or OC to enable employees in all branches and at all levels to utilise their knowledge resources by using KMSs in KS. The conceptual framework explored in this study speaks the language of business, focusing on management and organisational practices related to technology acceptance and usage, organisational culture, KMS usage, knowledge sharing, and organisational effectiveness. This makes it easier for MNCs to use and apply; it can also be connected to key strategic initiatives, metrics and capabilities.

Limitations of the study

Although the results and findings of this study are promising and valuable, a few limitations have been recognised which might be useful for other researchers to consider in the future. First, the study was conducted in different MNCs with several types of business, and restricted to a limited number of countries. Obviously, there is no reason to assume that the results obtained in this study can be generalised to other MNCs, other countries, other functional areas or other industries. Second, the framework developed in this study represents a reasonable starting point as it was depicted on a sample size (42 responses from different countries), which certainly will have some implications for the generalizability of the findings. Third, it would in fact be unreasonable to assume that OC, KMS tools, and KS process are the same in all MNCs, as organisations have such diverse goals, operating in different sectors in different countries with employees with different backgrounds, knowledge, educations, willingness to share, experience of working in MNCs.

Further Research

To generalise the results and make significant analysis, further quantitative research needs to be conducted with a much larger sample size. Furthermore, testing and exploring the framework developed in this study in other cultural settings, including African, Asian or other western countries, will be valuable in providing evidence concerning the robustness of the framework across different cultural settings. It would also be interesting for future researchers to test and explore the framework developed for this study as a case study in a single MNC with branches all over the world.

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